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— BY —

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## THE NON-MATERIALISTIC CHARACTER OF THE MIND.

PROF. FINLEY ELLINGWOOD, M. D.

The human mind is constantly endeavoring to solve the many problems of science. The one scientific problem upon which physicians, as students of science, concentrate their attention, is MAN.

Inasmuch as man, physically, is only one, of all animals, only one of all created things. At first thought our field might seem to be a narrow one. But if we consider man's superiority, his intricate physical nature and his intellectuality; in this his *dual* nature, we find our subject a most complex one. One which we shall know only imperfectly after a lifetime of study.

Our object in the study of man is not alone that we benefit science abstractly. It is not because of the pleasure the study affords. It is a worthier object. It is the relief of human suffering. It is the rescue of mankind from impending death. And the superiority of our subject stimulates us to a persistent and continued effort to render perfect as far as possible our knowledge of this subject.

Man, then, is the study of the physician. The reference to man's dual nature involves two propositions. The first, the possession of a physical nature, the animal, and associated with this most intimately, in the performance of the vital functions, is that of the second proposition; the possession of a mind a super-physical, super-natural element.

The study of the subject matter of the first proposition, is included in the study of anatomy and physiology. Anatomy considers the human body as a machine, in itself dead, inert, motionless, composed of elements subject to the chemical law of change. It considers each organ, its form composition and properties, in the mechanical relation it sustains to every other organ.



On the other hand, physiology studies the machine as influenced by the motor principle *life*, living, acting, moving; performing its various functions in obedience to physical law perfectly, preserving in itself symmetry of action, harmony, unity. Here we study the phenomena of birth, of growth and development to maturity; then follows decline and death.

But, in the progress of this study, we are constantly brought into contact with the principle involved in our second proposition, the animating principle of the machine, a mysterious incomprehensible, intangible something, existing apparently outside of physical law, perfect in its operations, and so far as our observation can detect, possessed of a peculiar independence of operation, the mind of man.

Yes, dwelling in this body is the mind, an immaterial, supernatural element, a self-conscious principle. This we must study with its concomitants of will, understanding, reason, conscience. These are as surely a part of the human being as the bone or muscle or brain. And to the truly educated physician, a knowledge of the intellectual in man is as essential as a knowledge of the physical organism. And it is to this component of man's nature that I more especially desire to direct your thought.

It is an incorrect opinion often expressed by the laity, that the effect of the study of the physical man upon the mind of the medical student tends to skepticism; that this study so reveals the perfection of the workings of the human system as to impress the student that the machine acts independently of outside law, that it produces and perpetuates its kind, performs with perfectness all the essential functions of the body alone, in itself.

There is a tendency in the human mind to one of two extremes of belief, either to the extreme of credulity, or the extreme of skepticism.

The tendency of scientific investigation to the skeptical mind, seems to lead to the belief that there is nothing in the universe but matter, matter and its laws, that there is no spiritual or immaterial substance. And that wonderful

something we call mind, is but a mode of force, and motion, in matter, and does not exist independently of the body.

Carlyle said it was the belief of Cabanis that the brain secreted mind, as the liver does bile. If so, then when the secreting organ is dead, the product is dead also. There is great diversity of belief concerning the relation of the mind to the body, and also concerning the *cause* of all manifestation.

In the perfect study of the human body, and in fact of all matter, whether it be organic or inorganic, the microscope has revealed much indeed which has cleared away the mists of doubt and uncertainty which have enveloped science. It has revealed the minute structure of all tissues, the most minute fiber, and the multitude of cells of which every fibre is composed. It goes further and shows the perfect structure of the cell, its wall, its contents, the little nucleus and nucleolus. It finds these little cells in all matter, very similar in all.

It also reveals within each cell, and enveloping the nucleus of the cell, a minute mass of matter, without apparent structure, colorless, transparent, jelly-like. In all living tissues the same, whether found in frog, or bird, or beast, or man, or bone, or brain, in all plant life the same.

Beyond this minute mass of matter the microscope has no power, it makes no revelation. This, then, is said to be the fundamental mass of germinal matter. Scientists have called these little masses protoplasm, more recently bioplasm, and most wonderful powers they attribute to them. They find that each mass seems to be possessed of active life; it grows and changes its form; it throws out processes and projections in all directions. Then each of them breaks in two, and each half possesses all the properties of the original mass, and soon appears like the original, and in turn breaks up and subdivides, and creates others continually.

These little primitive masses (bioplasm) rapidly absorb all nutrient matter of whatever character it be, and by the addition of the nutrient matter, grow and develop the cell. Then cell is added to cell, and cell to cell, until every fibre



and muscle and nerve is formed; until in the plant every fibre and twig and leaf is formed. But instantaneously, at the moment of absorption of the nutrient matter, by a process which no human science can imitate or explain, each little bioplast seems to change this inert, not living matter into living tissue, transfers to this material of growth that wonderful principle of life.

Here the power of the microscope, or of the most acute human observation ends. How it does it, or why it does it, or by what process it does it, we cannot possibly know.

This change takes place within the bioplasm; some scientists claim that is done by the bioplasm, that it is the work of the bioplasm. Others, however, believe it to be done in the bioplasm by an outside power acting through this little mass of germinal matter.

Here, then, in this apparent production of life is an evident effect. Can such an effect occur without a cause?

The theory of evolution claims that one of these little masses was originally, ages ago, the only substance containing life. That it subdivided and produced others; that these by a process of development, gradually created a higher grade of life, and this developing gradually produced higher life, until in time the lower grades of animal life were produced. Then, gradually, in succeeding ages, measuring time by the millions of years, still higher and higher forms were developed until the ape was reached. And by slow and steady process, from this superior creation, man was ultimately evolved.

Haeckle, that most interesting of German writers, elucidates in an attractive manner, with apparently forcible arguments, this theory of evolution. And from his first pages the reader is captivated with the beautiful structure which gradually unfolds to the intellectual vision. He is almost convinced from the first that that, which is so perfect in its every part, must be perfect in its completeness.

The author begins with things in nature as we now find them completed, perfect in structure and in obedience to law. He considers all matter as matter, all law as an evolution of force. He claims that organization occurred because of



necessity. That life is the *result* of organization. He considers the organization and structure of all things specifically, relatively and comparatively. He considers them in their entirety, then in their parts, then in the minute structure of every part until he gets back to that primitive mass of germinal matter, the bioplasm. Here he has arrived at, to him, the origin of things.

His structure now being completed, perfect, he must reveal to us the foundation on which this perfect structure, this theory of evolution, rests. He informs us that the foundation is composed of matter, and that it is in every way a perfect foundation; as perfect, as complete, as beautiful as the structure which it supports.

If we witness, in the preparation for a building, a massive well constructed foundation, dug deep and laid upon the rock, we instinctively conceive a proportionately massive and perfect structure to be erected thereupon.

If we behold the turrets and spires of a beautiful and costly structure, we immediately believe the structure exists; we have a tangible evidence of it; we *know* it, and to exist we *know* that it must rest upon a correspondingly massive, firm, and secure foundation. It is absolutely inconsistent with any known physical or mechanical law that it should be otherwise.

What foundation then must this scientist give us for this apparently perfect structure?

"In the bioplasm," he says, "there is life. It has produced life; man cannot produce it. *This is the first cause.* Life is the result of the organization of the bioplasm. The first bioplast produced another bioplast, and these, others; these developed each a cell, then cell was added to cell, and cell to cell, until tissue, and fibre, and stem, and leaf, and twig, and branch, was formed in the plant. Until fibrilla, and fibre, and muscle, and nerve, and bone, and brain were formed in the animal."

Yes, but what has formed the first bioplast? we ask. Did it not need a creator? Oh, no, he replies; there is no creator there was no need for a creator. There is one God that is *necessity*. Demand is the primal cause for this

wonderful structure. "Somewhere, somehow in the turmoil of a cooling planet, there chanced to be formed, there *must have been* formed spontaneously by a fortuitous accidental concourse of atoms, a bioplast! !"

Here is his foundation for this wonderful structure. How widely inconsistent with the apparent character of the structure. A castle of grandeur on a foundation of sand.

It must be laid down, my friends, as a first principle founded upon the constitution of our minds, and needing no verification, that design, naturally, necessarily, suggests a cause. The conception of the one is always connected with the other. Here is an apparent design with no cause except chance, or spontaneous generation. If this is actually the foundation, the structure *cannot* exist—it is a castle in the air—we are deceived.

On the other hand, if the structure exists, if there is truth in the theory of evolution—and I am not here to say there is none—it must have an exact, perfect, and secure foundation, one based on a first cause, immutable, omnipotent, eternal.

"Precisely here," Joseph Cook says, is the rock on which materialism and the radical form of the evolution theory wreck themselves.

The philosophers of ancient Greece long debated the subject of the materialistic character of the mind, or soul. But even in those days of doubt and scientific mistiness, by far the larger number of their poets and philosophers, held to the faith of Socrates, who said to his friends, before he drank the hemlock, "after my death you may bury me if you can catch me," do not call this poor body Socrates; I shall leave you and go to the joys of the blessed; be of good cheer! Say you are burying the *body* of Socrates, only.

An incontrovertible, self-evident truth, which neither materialist nor theist will deny, is the existence in every man of a self-conscious principle. A personal knowledge, by each mind of the existence of that mind. This knowledge makes our existence to us real, actual, and if exercised will perpetuate in our minds to future days, or even



years, very much of our actual enjoyments or sorrows, which will of themselves pass rapidly by.

Sir Benjamin Brodie said: "The existence of my own mind is the only thing of which I have any actual and positive knowledge." Flourens said: "Man is the only one of all created beings, to whom is given the power of perceiving that he perceives, of thinking that he thinks, of knowing that he knows."

The existence of this self-conscious principle can not possibly be explained on any mechanical or materialistic basis. Physical science does not solve the problem of its existence. We cannot conceive that this principle, or man's mental or moral qualities; love, or hate! joy or sorrow! are only modifications of the substance of the brain! are the secretions of a physical secreting organ.

The idea that the conceptions of Shakspeare or Milton, or the inspirations of Handel, or Mendelssohn, or Raphael, or Michael Angelo, or the eloquence of our own Webster or Clay or the benevolence of Cooper, are all secreted matter; that they are the physical products of a physical organ is revolting to our intellectual sense.

In the minds of the ancient philosophers there was much doubt as to the location of the soul of man, in the body. Aristotle located it in the heart. Empedocles taught that it circulated in the blood and was thus carried to every tissue in the body. Pythagoras and Galen located it in the brain. Semmering, within the present century, assigned it to the fluids of the encephalon, Servitus to the aqueduct of Sylvius.

If consciousness be a cerebral product, a pure brain function, it should be assigned to a definite locality in the brain. This physiologists find it difficult to do, as those parts, to which it has been assigned, have been injured removed, or destroyed, and yet it has remained.

The effect of injury to brain substance exhibits itself in a corresponding relation upon the muscular or nerve structure of the body, while the mind may not be perceptibly affected. One-half of the entire cerebrum has been destroyed, resulting in paralysis of both motion and sen-

sation in one-half of the body and yet mental operations have been performed. There is no invariable relation between the extent of a brain lesion, and disturbed mental action, while between brain lesion and disordered physical action, there is an invariable relation. If the mind was a product of the brain, the relation would be as exact between a lesion and mental action, as it is between the lesion and physical action.

If the brain produces the mind, the quantity of mind ought to be in direct proportion to the quantity of brain, a small brain would produce small mind, and a large brain large mind. Whereas careful investigation has shown that there is no positive relation between the size of the brain and the extent of mental action. Cuviers brain weighed 64 ounces. And there was a negro hung in Ohio a few years ago, a *half-witted* sensual ignorant man, whose brain weighed nearly 66 ounces.

Again, consistent with an inflexible law in nature. The law of reproduction in kind, that the thing produced must possess the same general characteristics as the thing producing it. If the mind is a product of the brain, or if the brain secretes the mind, then the product must be a physical one like the secreting organ. And if physical, then it must be subject to the same physical laws and possessed of the properties of matter. A thought, then, or an emotion, or an exercise of the judgment or of the will should possess extension, imponderability, inertia, gravity, color, etc. An emotion of anger, or joy, a resolution or a desire might be square, or round, or heavy, or light, or red, or yellow.

Again the influence of the mind over the body is an argument in favor of its superiority. Physicians always observe that a patient recovers more readily if he is confident of his recovery. And many cases are recorded of the patient sinking rapidly and dying after losing faith in recovery. A hopeful, confident, mental condition on the part of a patient is absolutely essential. While very many of the so-called mind or faith cures, are no cures; many cases are known where recovery has rapidly taken place because of a firm resolve to get well. In cases of great



pain the patient has often kept his feelings under perfect control by will-power.

Cook says, "Established science asserts the absolute inertness of brain structure in itself. If this be true, then its apparent activity must be due to some influence outside of itself. That agent invisible, intangible, is yet well known to man's individual consciousness. That agent is the *soul* of man." An eye may be destroyed, but that does not destroy the light, the external agent which acts upon it. An ear may be destroyed, but that does not affect the vibrations of air which are perceptible as hearing. Thus the brain may be destroyed, but that does not affect the soul, the motive power which acts through it.

John Stewart Mill, while trying to reconcile the action of the mind with physical manifestation, and explain life as a result of physical force, says, "The laws of nature do not account for their own origin." Sir John Herschel, Carpenter, Dana, Agassiz, Grove, Pearce, Beale, and many other modern philosophers declare unequivocally that *force*, wherever exhibited, is of spiritual origin.

It is an acknowledged truth, notwithstanding much effort at disapproval, that the existence of a supreme being, is a fundamental conviction of the human mind, and philosophy in its sublimest aspirations maintains such an existence.

In the face of all these evidences, there are many intelligent men, men who would scoff at the idea of any organised substance in nature having originated by any accidental complexity of physical forces, who allow themselves to be confused and puzzled, and find themselves afloat on a sea of doubt, because men like Haeckle, and Huxley, and Spencer, and John Stewart Mill; men clothed with some scientific authority, have asserted, that inasmuch as there are no known physical or mechanical laws by which the origin of life can be accounted for in living tissues, it must be attributed to chance, to spontaneous generation.

No, my friends, the physician, true student of science, must find himself believing that there is a first great cause for all things created, which is superior to the thing created. That the physical man is a machine, operated upon by

something which partakes of the character of the supernatural; that something, possesses none of the properties of matter, the laws which influence matter have no effect upon it. That this the mind or soul of man operates through the brain, although no part of the brain. In the words of Sir Thomas Brown, "There is surely a piece of divinity in man; something which existed before the elements, and owes no homage to the sun."

To that thoughtful man, who follows instinctively the natural tendency of human belief, and accepts the fundamental conviction of his mind, that there is a God; the perfection and faithfulness of all of nature's processes, manifests the perfection and faithfulness of a great designer. And this perfection, instead of leading him to an opaque materialism which intercepts the face of the Creator, and leaves man in darkness as to a *cause*, becomes the mirror, which correctly reflects God's unchangeable character.

#### TO THE GRADUATING CLASS.

In the name of the Faculty of Bennett College, I welcome you, graduates in medicine, to the ranks of our honored profession. In the choice of a profession, had you consulted us, we could have advised you to select one less burdened with responsibility, less filled with privation and disappointment, one in which there is less need of intensely active, exhausting physical or mental labor. And yet, in any profession or calling, the useful man must assume much responsibility, and active labor is always essential to success.

But the profession you have chosen, in dealing as it does with human life, might well be said to be the most responsible of all professions.

Perhaps you have entered the medical profession anticipating pleasure, ease, rapid accumulation of wealth, appreciation, gratitude. I would not mar the pleasure of this hour with discouragement. And yet, if you realize your anticipation of pleasure, it will come through your success in your profession. Instead of ease you will find persistent and exhausting labor, instead of willing and sufficient remuneration, there will often be but little, and often no



remuneration. You will often meet with ingratitude, often an entire lack of appreciation from those from whom you would most expect it. But, notwithstanding this, success, when it comes to the physician in his profession, brings a reward fully the equivalent of the price paid.

In the pursuit of your profession there will be many anxious hours, hours of deep concern for your patients—hours when all mercenary considerations are lost in the one intense desire for *a life*; hours when this solicitude will be intensified to actual anguish. Is it possible to set a moneyed value on such services? Money alone can not be an equivalent; there must be gratitude; there must be evidences of appreciation.

I remember once after many hours of constant watching and intense anxiety over a little life, just trembling in the balance, the pressure of that mother's hand, the welling up of tears of sincere gratitude. It was all she had to give; it was all I wanted.

The peculiar character of your profession will keep you constantly before the eye of the public. Your mission is the same to the rich or to the poor, to the mansion, to the cottage or to the hovel. Alone you will visit the sorrow-stricken and the desolate; your smiles, your words of sympathy and encouragement will often be the only rays of sunlight which breaks through the darkness of those lives. With them your words will be words of weight and influence; how necessary that they should be thoughtful words; how excellent your mission if you can impart spiritual comfort as well.

The relationship existing between the physician and his patient is a sacred one, one of the deepest confidence. This, above all things, I would have you realize and fully appreciate. In order that the physician may fully appreciate this, he must be possessed of the highest moral sense. He must be essentially *a moral man*, thoughtful, kind, consistent. I cannot conceive of a true physician being otherwise. In truth, my friends, a man with a debased moral sense, a dissipated immoral man, has no more right within the ranks of the medical profession than he has in the ministry. It

is as shocking to our sense of right in the one case as in the other.

Bear these facts in mind, gentlemen and lady graduates, in entering this, to you an untried field. And from the first take a position in society which will command the respect, and win the confidence of the public. In order to do this, there are many virtues I would advise you to cultivate. But, first, if such sentiments exist I would advise that you rid your minds of selfishness and self-esteem. Egotism will seriously retard your advancement.

Cultivate a love for your profession. First by endeavoring to become successful in it; (an unsuccessful man is always a dissatisfied, discontented man). Secondly, by retaining in your mind an abiding sense of its dignity and accountability. Possessed of a love for your profession, you will readily surmount its difficulties and discouragements; you will with pleasure continue its laborious study and will rapidly advance to a position which will merit the confidence and esteem to which you aspire.

Cultivate a spirit of sympathy for your patients, don't fear its softening effect; you will be the better physician for it.

A celebrated surgeon, an old man, once came before the clinical department of the New York Medical College, where there was a severe operation to be performed on a little child. He looked at the little one a moment and hesitated, then turning to the class he said, "Gentlemen, there are others here who can perform this operation as well as I. I cannot endure the sight of suffering as I once could; you must excuse me; I will retire. Did the possession of that spirit make him less a surgeon? No less a surgeon, but more a man.

Remember the poor. It is better as one has said to be judged mercenary and exacting by the rich, than that you should accumulate wealth by oppressing the poor. Be to them truly humane. True humanity consists in the disposition of heart to relieve distress and suffering.

In your conduct toward those of your own profession, *treat all, of whatever creed, with deference.* Be you, to them, the *true gentleman* always.



The time you have spent with us has been devoted to *work*. Work which will tell in the success you will surely attain in your calling. Your extreme diligence, during the winter just past, has not escaped the eyes of your professors. If the zeal you shall exhibit in your calling, may be predicted by the energy and intense activity you have shown in preparing yourself for that work, we have no hesitancy in declaring our firm confidence in your ultimate success. Bear in mind, however, that you have but just begun your studies. We have taught you the alphabet, the first principles. The rest you have yet to learn by hard study, by actual work, by practical experience.

Continue your studies persistently. At the same time do much general reading; add breadth to your views and largeness to your ideas. A limited and careless education is plainly apparent to the cultivated mind. And although you may resolve to stand high in your profession, without intellectuality, you will occupy the position you are actually fitted to occupy, and no other. There is a law of equilibration which adjusts these matters, notwithstanding your own resolutions.

That which you learn, learn well; it is better that you know a few things well, than that you should be only carelessly informed on many topics. *Glean good* from every source. Apply all you learn, and learn to apply. Seek the great fundamental truths of the science. Endeavor, by original investigation, to add something new to our rapidly accumulating store of knowledge. And yet our science is not to be completed by additions only; by accretion as it were, but as the marble under the chisel of the sculptor, gradually assumes a form every day more and more beautiful, every day more and more perfect, so our science by careful study, by intelligent research, in clearing away error and doubt, in eliminating the false, in developing the true, is rapidly assuming a beauty and perfection, a precision, not before dreamed of. Be you sculptors, all, earnest, devoted, consecrated.

And to you graduates who have had a long, hard struggle against circumstances, be encouraged; look for-

ward with hope into a brighter future; forget the unpleasant recollections of the past. Keep your eye on the silver side of the cloud. Bravely and cheerfully retain your manhood, with perfect confidence in your future success, and time will reveal to you that you have been made better and stronger by your adversity. Adversity is the fire test of a young man's character, and if he passes through it resolutely, it will develop the good material there is in him, and bring out the pure gold of his character.

To you all, in conclusion, I would say, strive to excel; to excel you must work. Excellence is granted to no one but as a reward for labor. Cultivate those elements of character which adorn; virtue, knowledge, temperance, patience, godliness, brotherly-kindness, charity. Possessed of these virtues, the Faculty of Bennett Medical College will bid you God speed, confident that the record of your lives, written on that immortal page which time cannot efface, but which eternity will only brighten, will be the record of useful lives; lives filled with self-sacrifices; lives filled with noble deeds for the good of your fellow men.







